

CLAIMS

What is claimed is:

1) A slider being fixated on a slider arm of a hard disk drive and having a burnished surface in a substantially parallel orientation to an opposing hard disk surface, wherein said parallel orientation is defined by burnishing said slider on said opposing hard disk surface.

2) The slider of claim 1, wherein said burnished surface is placed on an air bearing surface adjacent to a contacting sensor.

3) The slider of claim 2, wherein said contacting sensor is a magnetic read head.

4) The slider of claim 2, wherein said burnished surface is placed on a slider having a crown.

5) The slider of claim 2, wherein said burnished surface is placed on said slider having a camber.

6) The slider of claim 1, wherein said burnished surface is placed on an air bearing surface overlapping with a contacting sensor.

7) The slider of claim 6, wherein said contacting sensor is a magnetic read head.

1 8) The slider of claim 6, wherein said burnished
2 surface is placed on said slider having a crown.
3

1 9) The slider of claim 6, wherein said burnished
2 surface is placed on said slider having a
3 camber.
4

1 10) The slider of claim 1, wherein said burnished
2 surface has an area extension corresponding to a
3 predetermined fly characteristic of said slider.
4

1 11) The slider of claim 1, wherein said burnished
2 surface has an area extension corresponding to a
3 predetermined friction characteristic of a
4 contacting interface between said slider and said
5 opposing hard disk surface.
6

1 12) The slider of claim 1, wherein said burnished
2 surface is provided by applying a burnishing
3 method.
4

1 13) A burnishing method for burnishing a slider on a hard
2 disk surface, said slider being mounted on a slider
3 arm of a hard disk drive, said burnishing method
4 comprising the steps of:

- 5 A) preparing a hard disk surface by removing
6 eventual topographic inconsistencies;
7 B) burnishing said slider; and
8 C) checking a burnishing result.
9

1 14) The burnishing method of claim 13, said burnishing
2 method further comprising the step of recognizing

eventual topographic inconsistencies being performed prior to said step A) of claim 13.

15) The burnishing method of claim 13, said burnishing method further comprising the step of deriving a resistive reference signal during a non-contacting condition of the slider.

16) The burnishing method of claim 15, wherein said resistive reference signal is provided by a natural resistance of a read head of said slider.

17) The burnishing method of claim 15, wherein said non-contacting condition is provided by positioning said slider arm in an operational parking position.

18) The burnishing method of claim 15, wherein said checking of said burnishing result is a recognition process of a predetermined fly characteristic of said slider.

19) The burnishing method of claim 18, wherein said fly characteristic is determined by a resistive operational signal derived from said read head and compared to said resistive reference signal.

20) The burnishing method of claim 15, wherein said checking of said burnishing result is a

3 recognizing of a predetermined friction
4 characteristic of a contacting interface
5 between said slider and said hard disk
6 surface.

7
1 21) The burnishing method of claim 20,
2 wherein said friction characteristic is
3 determined by a resistive friction signal
4 derived from said read head and compared
5 to said calibration signal.
6

1 22) The burnishing method of claim 13, said burnishing
2 method further comprising the step of sweeping said
3 hard disk surface.
4

1 23) The burnishing method of claim 22, wherein
2 said sweeping is performed as a final step of
3 said burnishing method.
4

1 24) The burnishing method of claim 22, wherein
2 said sweeping is performed by said slider with
3 a centrifugal movement alternating with a
4 centripetal movement.
5

1 25) The burnishing method of claim 24,
2 wherein said slider is contacting said
3 hard disk surface during said centrifugal
4 movement and distancing from said hard
5 disk surface during said centripetal
6 movement.
7

1 26) The burnishing method of claim 25,
2 wherein said contacting and said
3 distancing are performed by changing
4 an environment pressure.

1 27) The burnishing method of claim 25,
2 wherein said contacting and said
3 distancing are performed by changing
4 the rotational speed of said hard
5 disk.

1 28) The burnishing method of claim 13, wherein said
2 preparing of said hard disk surface is provided by
3 a stepped reduction of a disk surface burnishing
4 speed.

1 29) The burnishing method of claim 13, wherein said
2 preparing of said hard disk surface is provided by
3 a stepped reduction of an environment pressure.

1 30) The burnishing method of claim 13, wherein said
2 burnishing of said slider is provided by applying a
3 contacting force together with a rotational hard
4 disk speed that corresponds to an abrasion
5 characteristic of said hard disk surface.

1 31) The burnishing method of claim 13, wherein said
2 burnishing of said slider is provided by applying
3 said contacting force together with said rotational
4 hard disk speed that corresponds to a debris
5 clogging characteristic of a contacting interface
6 between said slider and said hard disk surface.

1 32) A hard disk drive having a slider being fixated on a
2 slider arm of said hard disk drive, said slider having
3 a burnished surface being burnished by an opposing
4 hard disk surface in a substantially parallel
5 orientation to said opposing hard disk surface.
6

1 33) The hard disk of claim 32, wherein said burnished
2 surface is placed on an air bearing surface
3 adjacent to a contacting sensor.
4

1 34) The hard disk drive of claim 33, wherein
2 said contacting sensor is a magnetic read
3 head.
4

1 35) The hard disk drive of claim 32, wherein said
2 burnished surface is placed on an air bearing
3 surface overlapping with a contacting sensor.
4

1 36) The hard disk drive of claim 35, wherein
2 said contacting sensor is a magnetic read
3 head.